



# **Laser Source Performance at H4**

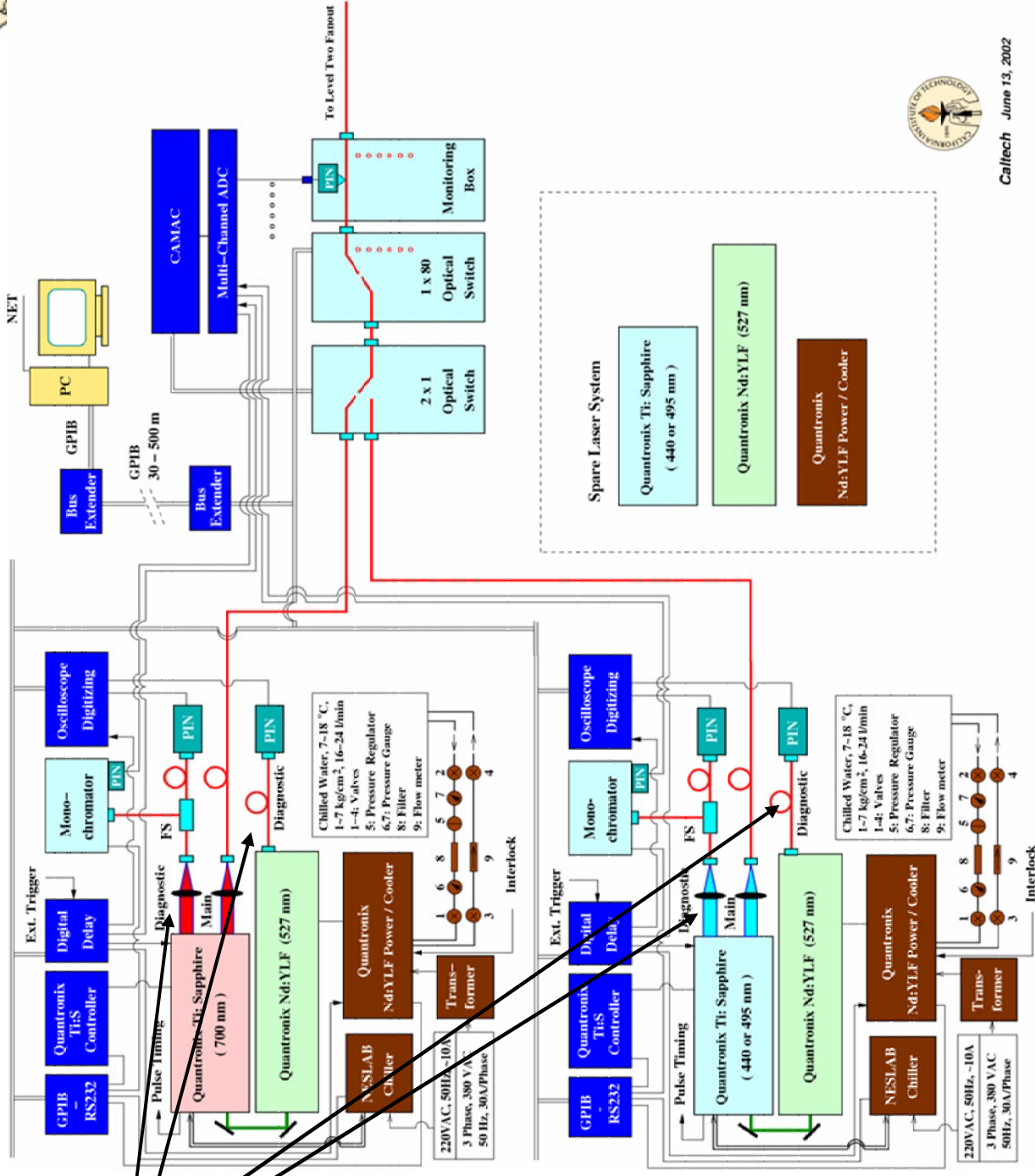
**! Everything still preliminary !**

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**CALTECH**

**CMS ECAL Testbeam Meeting**  
**CMS Week September 2003**



# Laser source layout at H4



Monitor :  
 energy,  
 pulse width,  
 timing  
 of pump  
 laser and  
 main laser

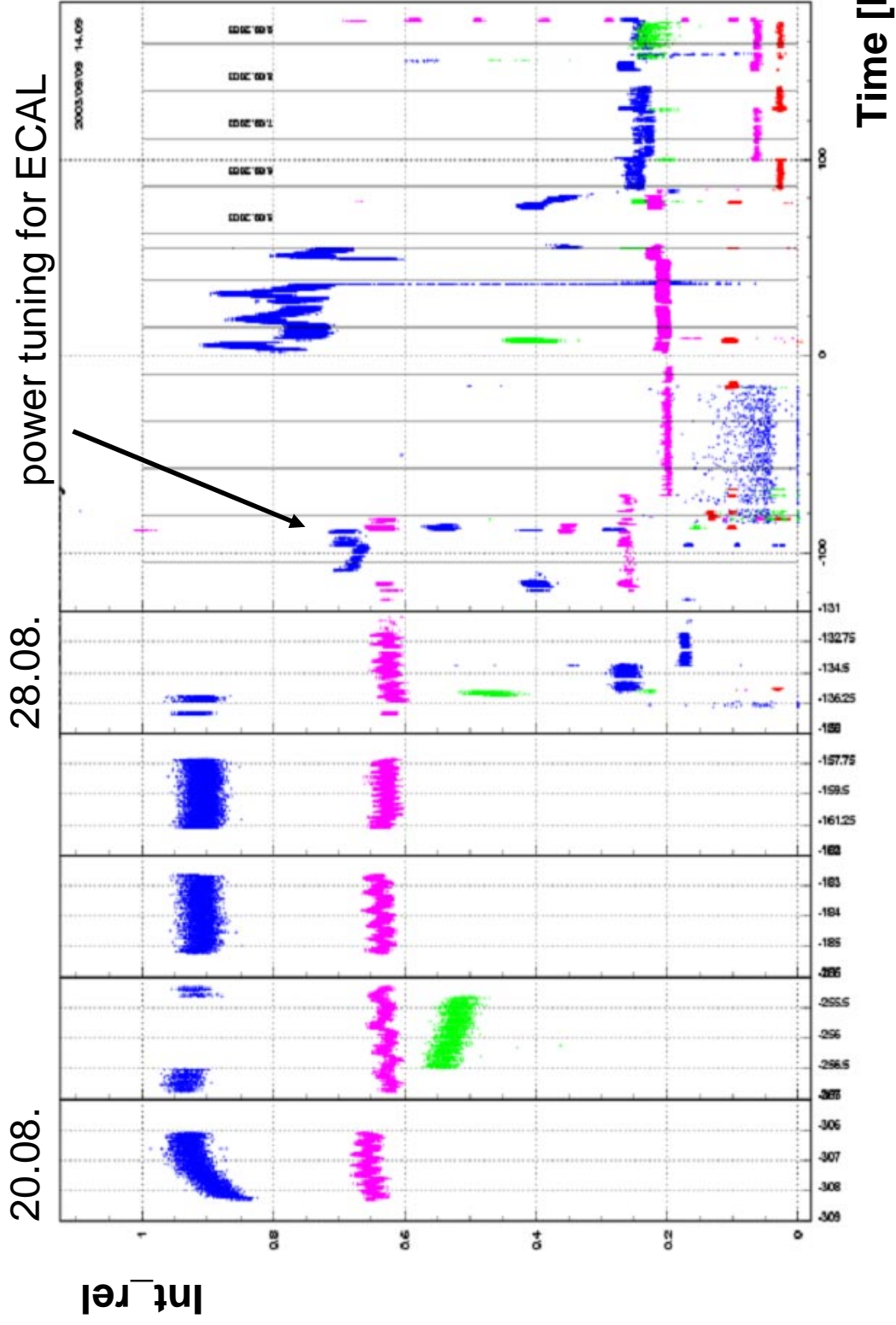
There are  
 actually two  
 blue/green  
 lasers, one as  
 spare.



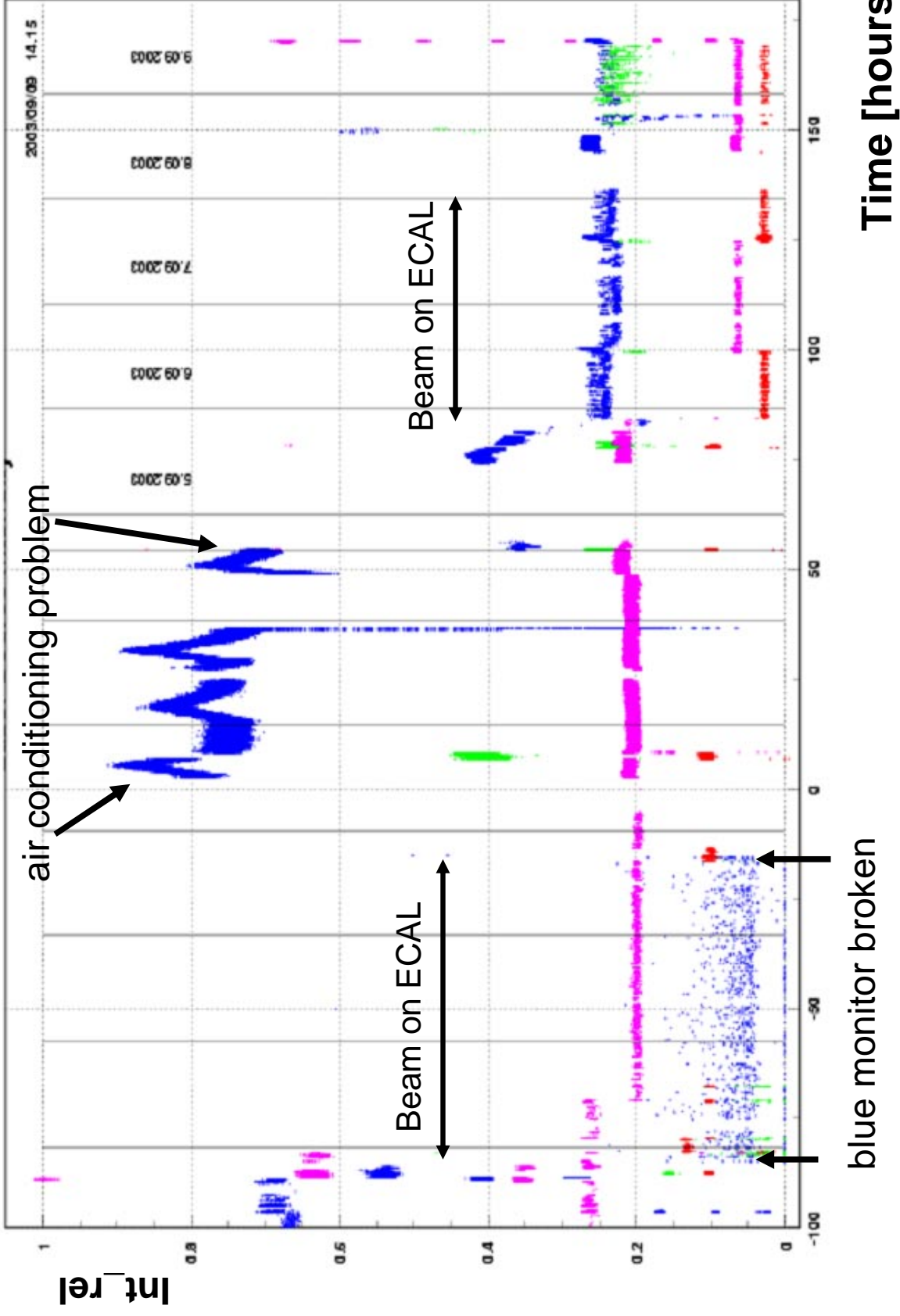
Caltech June 13, 2002



# Laser Power History

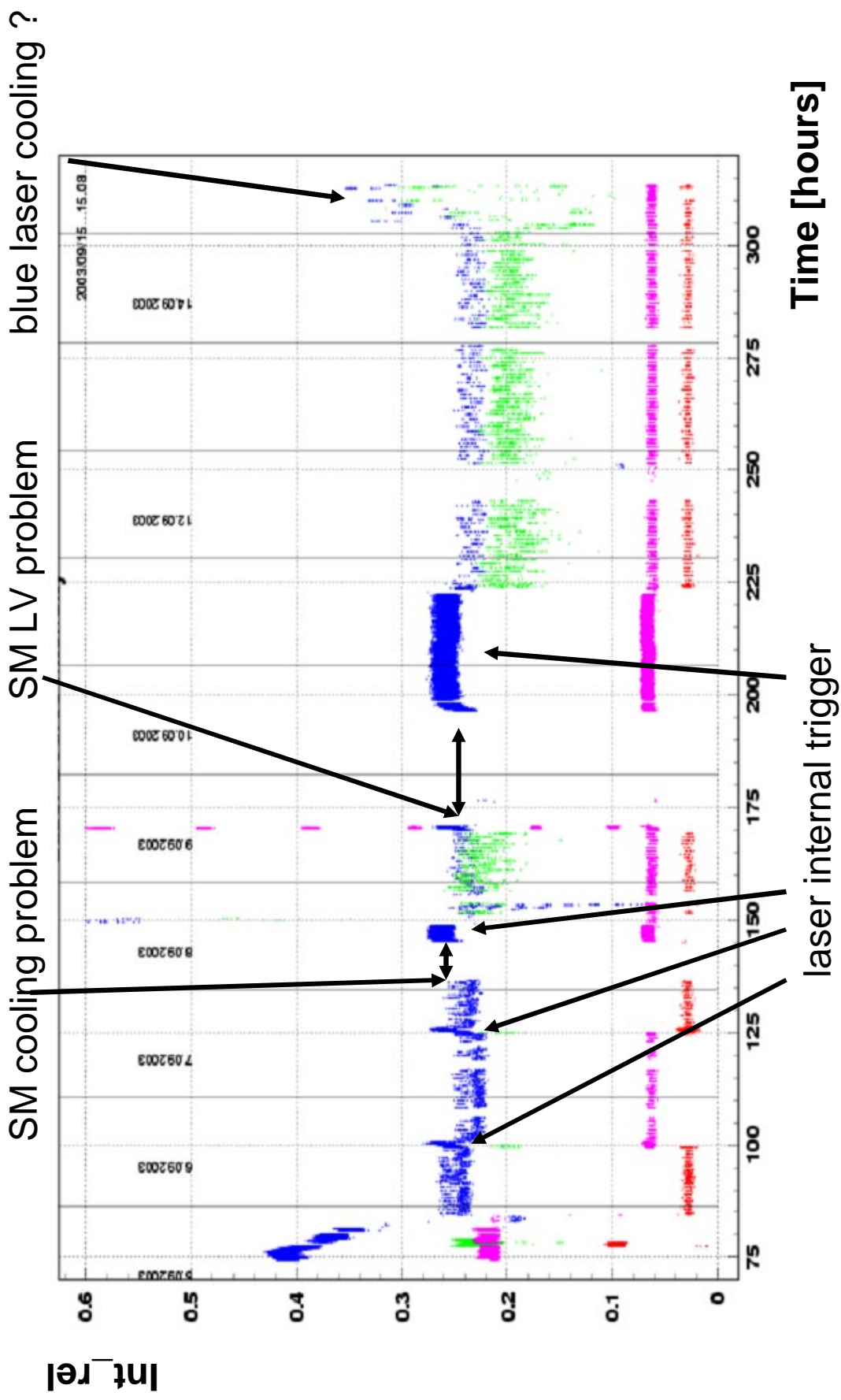


# Laser Intensity at H4 for all wavelengths



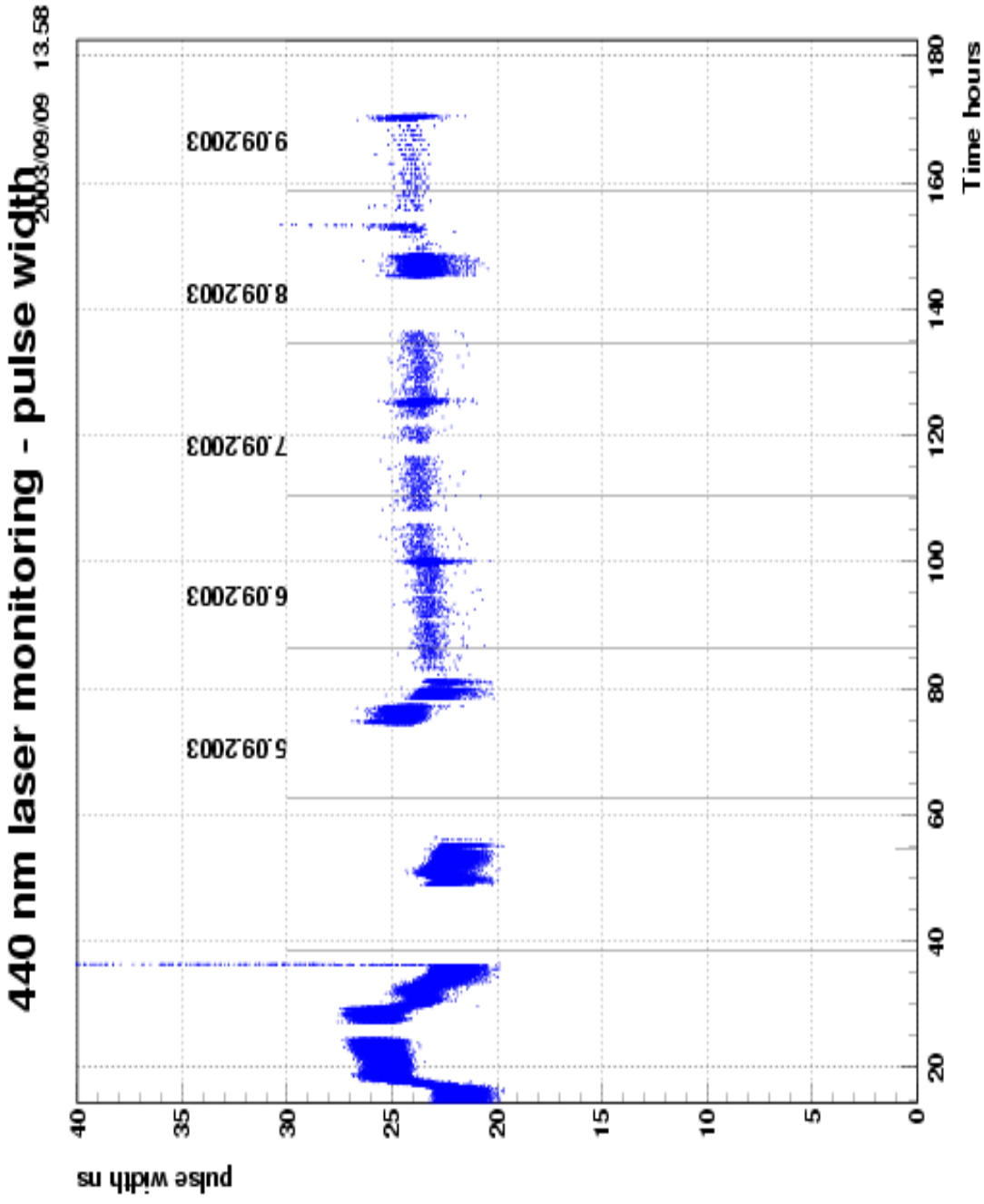


# Power History (cont.)



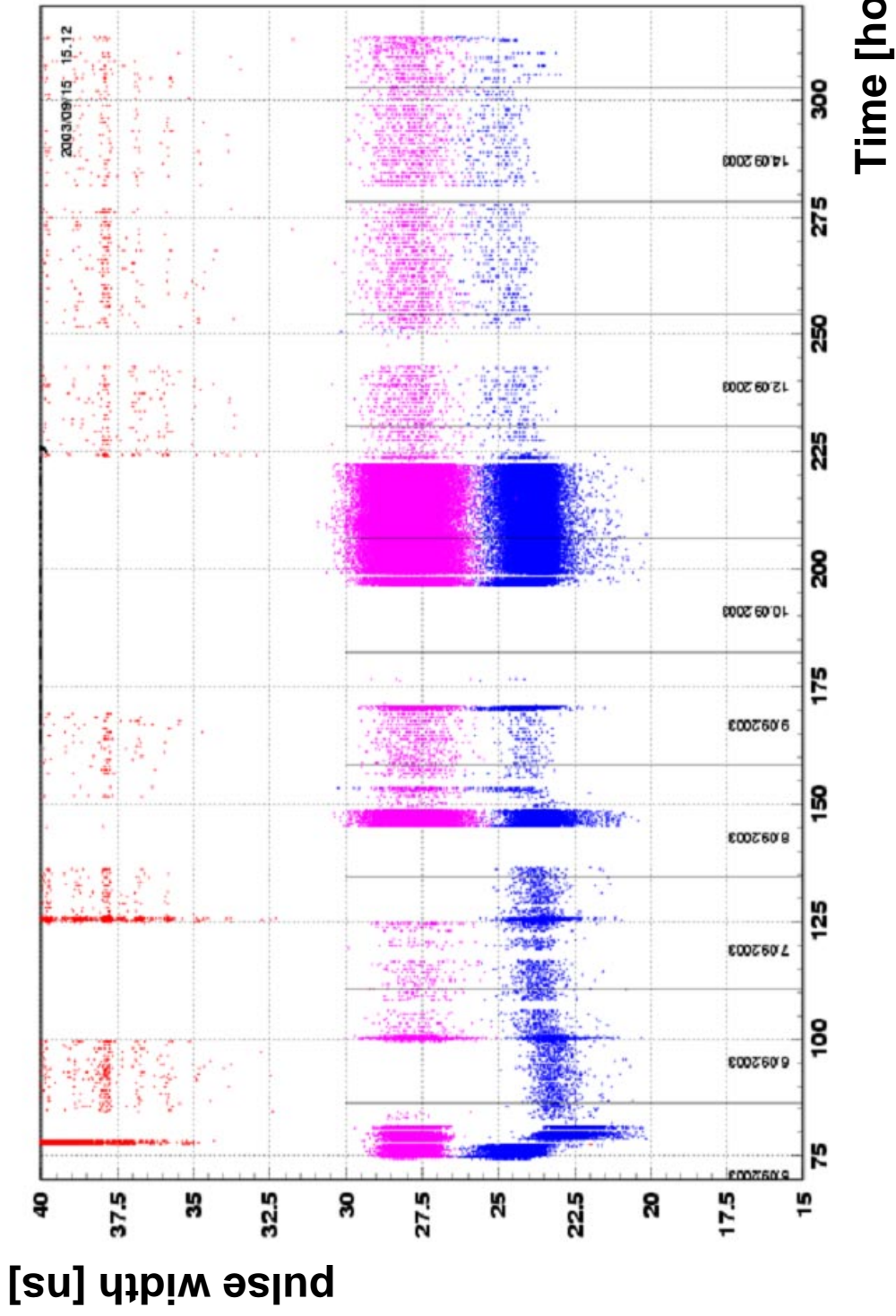


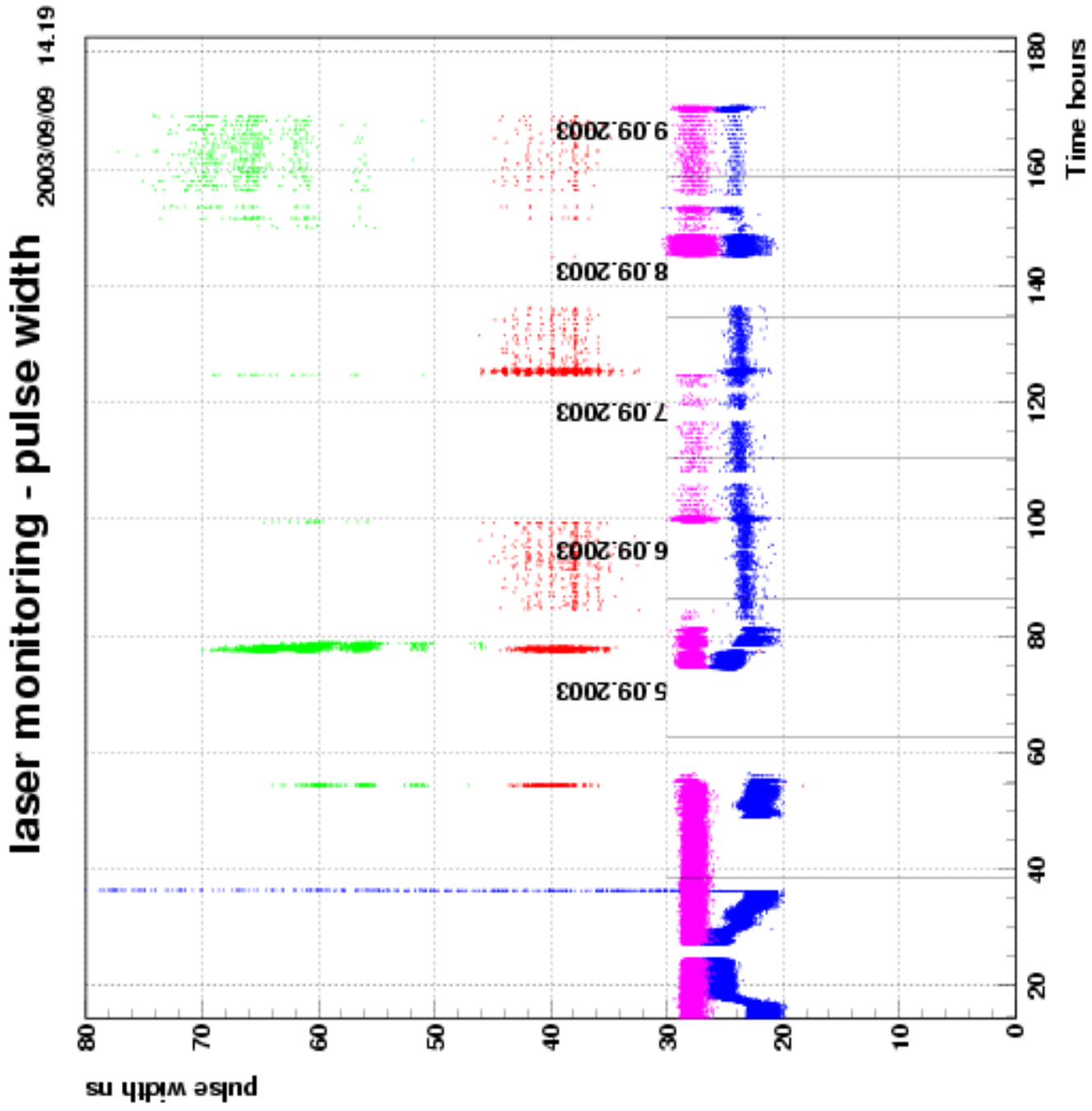
# 440 nm pulse width 3/9/2003 – 9/9/2003





# 440nm/800 nm pulse width (cont.)

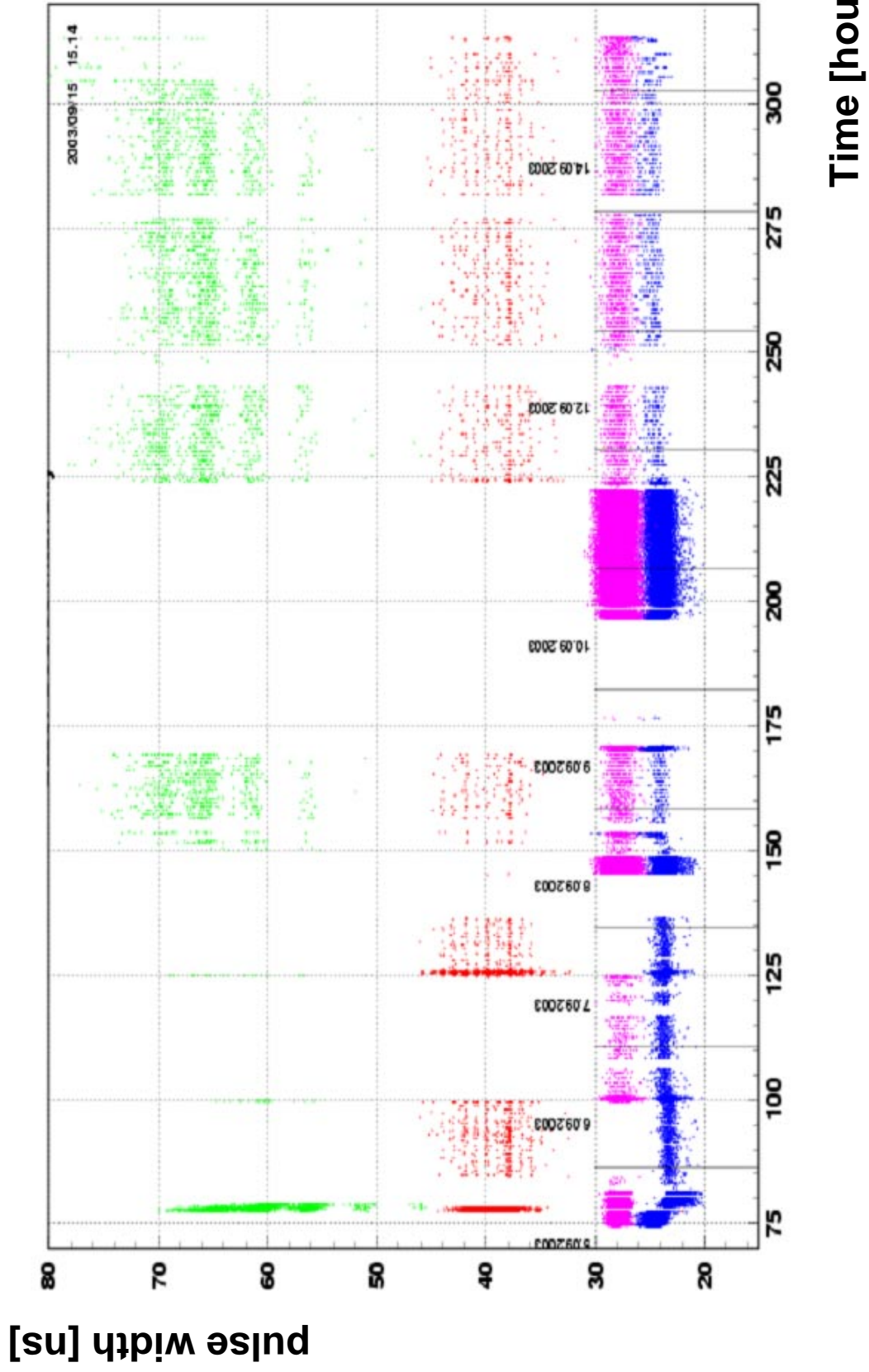








# All pulse width





# Summary



- Laser performance much better than last year
- Well within design specs.
- Laser performance critically depends on a stable environment – air conditioning, water cooling, cooling water quality, aging of certain components etc.
- Performance varies a lot between different wavelength which should be considered in the analysis

.... more detailed analysis will follow ....

From the laser side : Investigate small features

In general : Correlate observed features in the lasers

vs. features in the ECAL data